Cunningham Radiotron

RCA-6F7

TRIODE-PENTODE

6F7

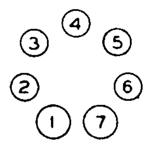
Heater *	Coated Uni-potential Cathode	
Voltage	6.3	a-c or d-c volts
Current	0.3	amp.

Direct Interelectrode Capacitances:

Triode Unit:		
Grid to Plate	2.0	μμf
Grid to Cathode	2.5	μμf
Plate to Cathode	3.0	μμf
Pentode Unit:		
Grid to Plate	0.008 max.●	μμf
Input	3.2	μμf
Output	12.5	μμf

Overall Length	4-9/32" to 4-17/32"
Maximum Diameter	1-9/16"
Bulb	ST-12
Cap	Small Metal
Base	Small 7-Pin △

Pin 1-Heater
Pin 2-Pentode Plate
Pin 3-Pentode Screen
Pin 4-Triode Plate



BOTTOM VIEW

Pin 5-Triode Grid
Pin 6-Cathode
Pin 7-Heater
Cap -Pentode Grid

AMPLIFIER SERVICE

	Triode Unit	*Pentode Unit*		
Plate Voltage	100 max.	100	250 max.	volts
Screen Voltage	-	100	100 max.	volts
Grid Voltage	-3	-3	-3 min.	volts
Amp. Fact.	8	300	900	
Plate Res.	16000	290000	850000	ohms
Mut. Cond.	500	1050	1100	μmhos
Mut. Cond. at -35 volts bias	-	9	10	μmhos
Plate Cur.	3.5	6.3	6.5	ma.
Screen Cur.	-	1.6	1.5	ma.

CONVERTER SERVICE

	Triode Unit	*Pentode Unit*	
Plate Voltage	100 max.	250 max.	volts
Screen Voltage	-	100 max.	volts
Grid Voltage	##	-3 min.**	volts
Oscillator Plate Cur. (av.)	4 max.	-	ma.
Typical Operation:			
Plate	100 °	250	volts
Screen	-	100	volts
Grid Bias	##	-10 °°	volts
Plate Resistance	-	2	megohms
Conversion Conductance	-	300	μmhos
D-c Plate Current	2.4	2.8	ma.
D-c Grid Current	0.15	0	ma.
Screen Current	-	0.6	ma.
Oscillator Peak Voltage Input	-	7	volts

Usually obtained by means of a grid leak.
** Grid bias should be at least 3 volts greater than the peak oscillator voltage applied to the pentode grid.
° May be obtained from 250-volt source through 60000-ohm dropping resistor.
°° Obtained by means of 1700-ohm self-biasing (cathode) resistor.

* In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.

△ Requires different socket than medium 7-pin base.

● With shield-can.

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TYPICAL CIRCUITS

FREQUENCY CONVERTER

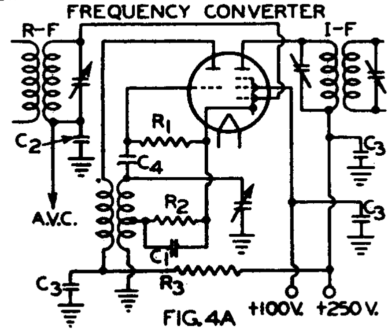


FIG.4A

FREQUENCY CONVERTER

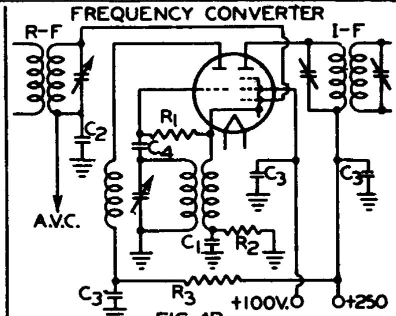


FIG.4B

PENTODE I-F AMPLIFIER & BIASED TRIODE 2ND DETECTOR

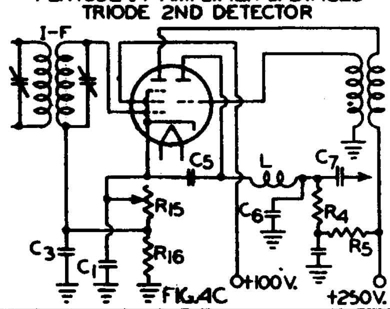


FIG.4C

BIASED TRIODE DETECTOR & PENTODE AUDIO AMPLIFIER

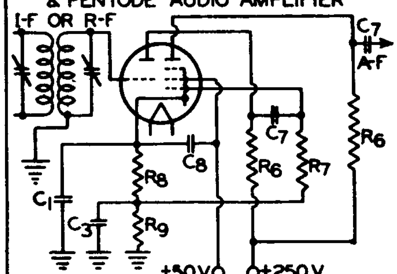


FIG.4D

GRID-LEAK TRIODE DETECTOR & PENTODE AUDIO AMPLIFIER

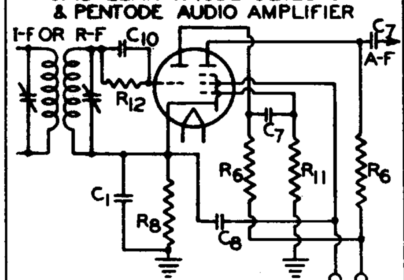


FIG.4E

DIODE DETECTOR & PENTODE AUDIO AMPLIFIER WITH DELAYED A.V.C.

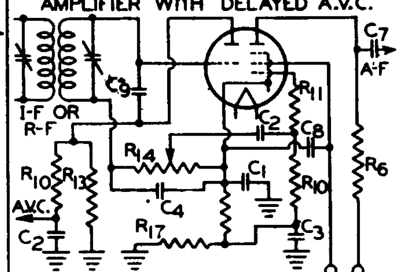


FIG.4F

APPROXIMATE VALUES

C_1=5 µf
C_2=0.05 µf
C_3=0.1 µf
C_4=0.0002 µf
C_5=0.0024 µf
C_6=0.00016 µf
C_7=0.01 µf
C_8=0.5 µf
C_9=0.0005 TO 0.001 µf
C_{10}=0.00025 µf
L =I-F CHOKE COIL
R_1 =OSCILLATOR GRID LEAK-0.1 MEGOHM

R_2 =PENTODE SELF-BIASING RESISTOR-1500 OHMS
R_3 =VOLTAGE DROPPING RESISTOR-50000 OHMS
R_4 =PLATE COUPLING RESISTOR-170000 OHMS
R_5 =FILTER RESISTOR-30000 OHMS
R_6 =PLATE COUPLING RESISTOR-300000 OHMS
R_7 =PENTODE GRID LEAK-0.5 MEGOHM
R_8 =PENTODE SELF-BIASING RESISTOR-5000 OHMS
R_9 =10000 OHMS. R_9 + R_8=TRIODE BIASING RESISTOR
R_{10}=FILTER RESISTOR-1.0 MEGOHM
R_{11}=GRID RESISTOR-500000 OHMS
R_{12}=TRIODE GRID LEAK-1.0 MEGOHM
R_{13}=A.V.C. DIODE LOAD-1.0 MEGOHM
R_{14}=A-F DIODE-LOAD POTENTIOMETER-0.5 MEGOHM
R_{15}=PENTODE SELF-BIASING RES. 4000 OHMS VAR.
R_{16}=1500 OHMS. R_{16}+R_{15}=TRIODE BIASING RESISTOR

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

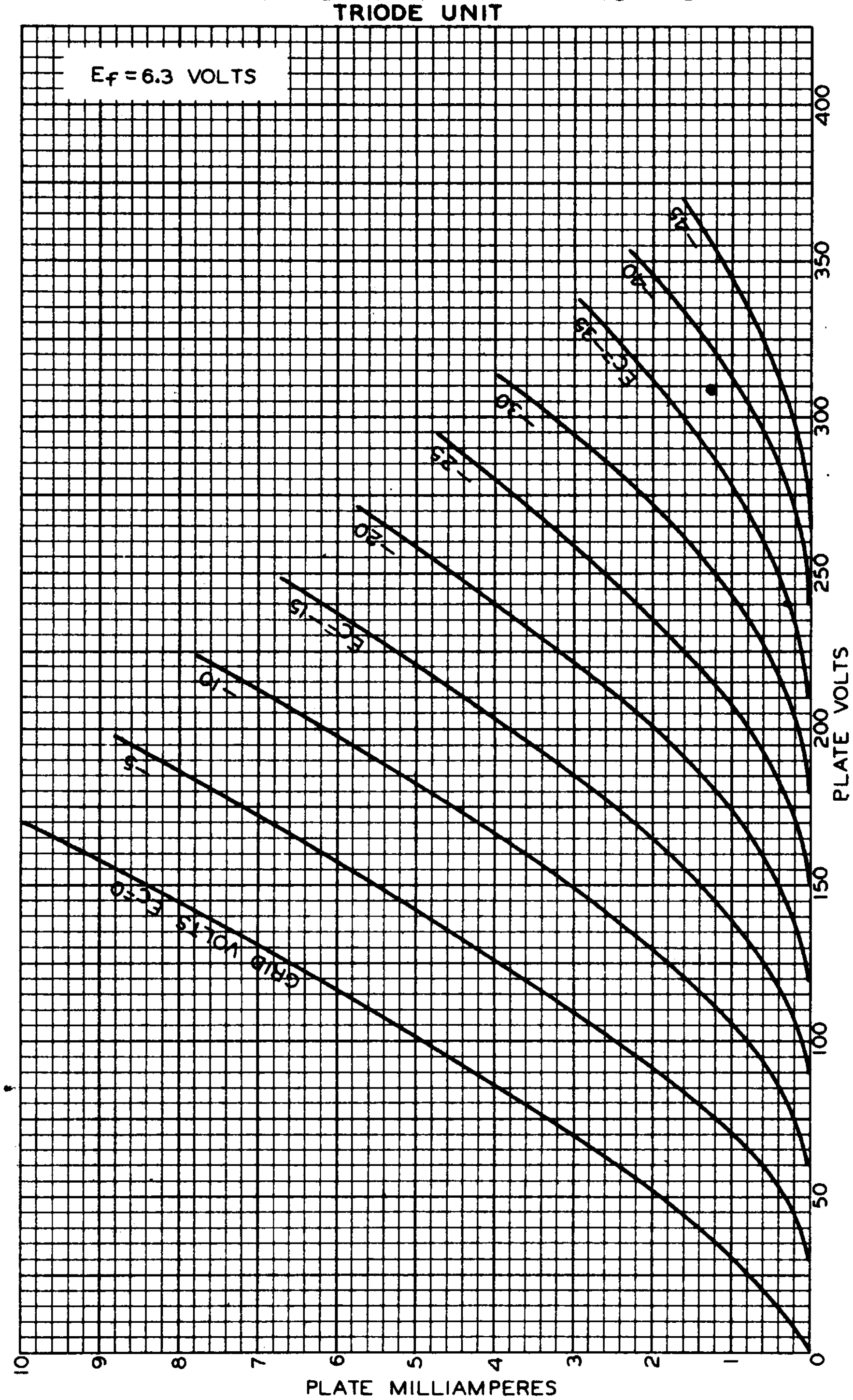
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Cunningham Radio Tubes C-6F7

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AVERAGE PLATE CHARACTERISTICS

TRIODE UNIT

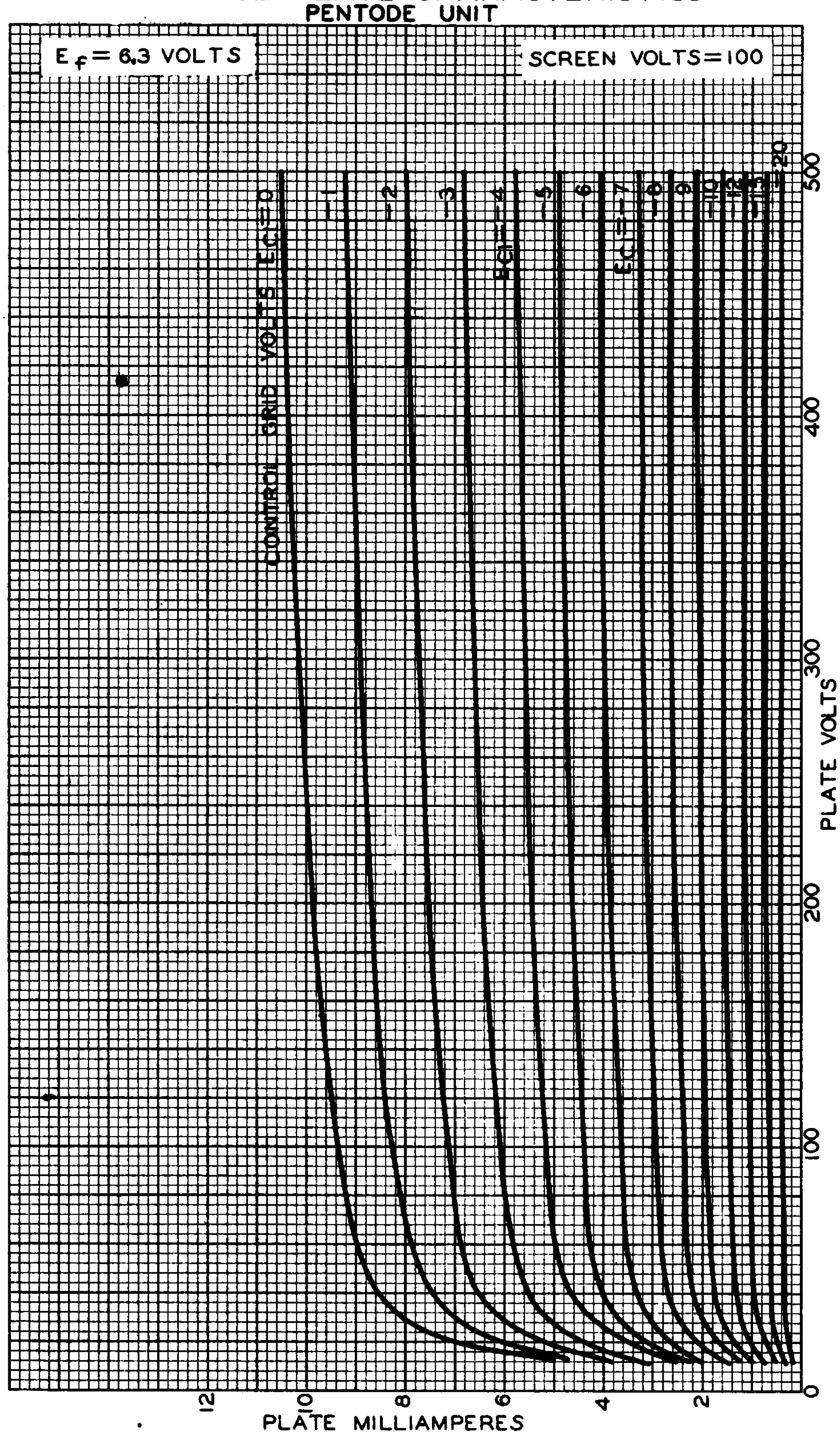


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AVERAGE PLATE CHARACTERISTICS
PENTODE UNIT



AUG. 18, 1933

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